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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/054,957

01/25/2002

Theodore W. Houston

TI-25900.1

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7590

02/13/2003

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EXAMINER

THOMAS, TONIAE M

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 02/13/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,957

Applicant(s)

HOUSTON ET AL.

Examiner

Toniae M. Thomas

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-11, 15, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-11, 15, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is a first Office action on the merits of Application No. 10/054,957, which is a divisional of Application 09/368,387, allowed 03 December 2002.
2. The preliminary amendment received on 25 January 2002 cancelled claims 1-8, 12-14, and 16-21. Currently, claims 9-11, 15, 22, and 23 are pending.

Specification

3. The specification is objected to because of the following informalities: "Figure 3" should be changed to "Figures 3A to 3C" (*par. [0011], line 1*); " τ " should be changed to " V_T " (*par. [0016], line 2*); "Figure 3" should be changed to "Figure 3B" (*par. [0018], line 5*); and "29" should be changed to "3, 5" (*par. [0019], line 7*).
4. The specification incorrectly refers to region 21 as an exposed portion of the channel (*par. [0017], line 7*). Instead, region 21 is the low V_T region. Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. *Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

The claim contains grammatical and/or punctuation errors, thereby, making it impossible to determine what is being claimed. Therefore, the claim has not been examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. *Claims 9, 11, 15, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki (US 4,371,955 B1).*

Regarding claims 9 and 11

Sasaki discloses a transistor, which comprises (fig. 2 and accompanying text): a semiconductor substrate having source and drain regions 22, 23 therein (fig. 2); and a channel region 211 between the source and drain regions in the substrate having relatively low V_T central region 211a between the source and drain regions, and relatively high V_T regions 211b, 211c adjacent to the source and drain regions (col. 2, lines 65-68).

Regarding claims 15 and 22

Sasaki discloses a transistor, which comprises (fig. 2 and accompanying text): a semiconductor substrate having a first source/drain region 22 and a second source/drain region 23 therein (fig. 2); a channel region 211 between the first and

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second source/drain regions; a gate dielectric 31 disposed outwardly from the channel region (fig. 2); a gate electrode 4 disposed outwardly from the gate dielectric (fig. 2); and a dopant in the substrate comprising an implant 211a aligned with the gate contained substantially within a projection of the gate electrode to the substrate, the projection of the area of the implant to the surface of the substrate being less than the projection of the gate (fig. 2).

One edge of the implant region is substantially aligned with one edge of the gate electrode, and the opposite edge of the implant region is within the projection of the gate electrode (fig. 2).

7. *Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Kwon (US 5,374,574 B1).*¹

Kwon discloses a transistor, which includes (figs. 3a-3h and accompanying text): a substrate 101 (fig. 3a); a gate electrode 105 disposed over the substrate (fig. 3g); and a punch-through implant 112 in the substrate contained within a projection of the gate electrode (fig. 3h).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (703) 305-7646. The examiner can normally be reached Monday through Thursday, and alternating Fridays, from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

¹ The Kwon patent was submitted as prior art.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JMJ

February 9, 2003


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800